

We claim:

1. An isolated nucleic acid molecule comprising a nucleotide sequence encoding human c-Maf.

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2. The nucleic acid molecule of claim 1, which comprises the nucleotide sequence of the coding region of the NheI XbaI insert of plasmid pHu-c-Maf (ATCC Accession No. 98671).

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3. The nucleic acid molecule of claim 1, which comprises the nucleotide sequence of SEQ ID NO: 1.

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4. The nucleic acid molecule of claim 1, which has at least 98% nucleotide identity with the nucleotide sequence of SEQ ID NO: 1.

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5. The nucleic acid molecule of claim 1, which has at least 99% nucleotide identity with the nucleotide sequence of SEQ ID NO: 1.

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6. The nucleic acid molecule of claim 1, which has at least 99.5% nucleotide identity with the nucleotide sequence of SEQ ID NO: 1.

7. An isolated nucleic acid molecule comprising the nucleotide sequence of the coding region of the NheI XbaI insert of plasmid pHu-c-Maf (ATCC Accession No. 98671).

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8. An isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1.

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9. A vector comprising the nucleic acid molecule of claim 1.

10. The vector of claim 9, which is an expression vector.

11. A host cell containing the vector of claim 10.

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12. A method for producing a human c-Maf protein comprising culturing the host cell of claim 11 in a suitable medium until a human c-Maf protein is produced.

13. The method of claim 12, further comprising isolating the human c-Maf protein from the medium or the host cell.

14. An isolated human c-Maf protein.

15. The protein of claim 14, which comprises the amino acid sequence encoded by the coding region of the NheI-XbaI insert of plasmid pHu-c-Maf (ATCC Accession No. 98671).

10 16. The protein of claim 14, which comprises the amino acid sequence of SEQ ID NO: 2.

15 17. The protein of claim 14, which has at least 98% amino acid identity with the amino acid sequence of SEQ ID NO: 2.

18. The protein of claim 14, which has at least 99% amino acid identity with the amino acid sequence of SEQ ID NO: 2.

19. The protein of claim 14, which has at least 99.5% amino acid identity with the amino acid sequence of SEQ ID NO: 2.

20. An isolated protein comprising the amino acid sequence of SEQ ID NO: 2.

25 21. A fusion protein comprising a human c-Maf protein operatively linked to a polypeptide other than human c-Maf.

22. Antibodies that specifically bind human c-Maf protein.

30 23. The antibodies of claim 22, which are polyclonal antibodies.

24. The antibodies of claim 22, which are monoclonal antibodies.

25. The antibodies of claim 22, which are coupled to a detectable substance.

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26. A nonhuman transgenic animal that contains cells carrying a transgene encoding a human c-Maf protein.

27. A method for detecting the presence of human c-Maf in a biological sample comprising contacting the biological sample with an agent capable of detecting an indicator of human c-Maf activity such that the presence of human c-Maf is detected in the biological sample.

28. A method for modulating human c-Maf activity in a cell comprising contacting the cell with an agent that modulates human c-Maf activity such that human c-Maf activity in the cell is modulated.

10 29. A method for identifying a compound that modulates the activity of a human c-Maf protein, comprising:  
providing an indicator composition that comprises a human c-Maf protein;  
contacting the indicator composition with a test compound; and  
determining the effect of the test compound on the activity of the human c-Maf protein in the indicator composition to thereby identify a compound that modulates the activity of a human c-Maf protein.

15 30. The method of claim 29, wherein:  
the indicator composition comprises a human c-Maf protein and a DNA molecule to which the human c-Maf protein binds; and  
the effect of the test compound on the activity of the human c-Maf protein is determined by evaluating the binding of the human c-Maf protein to the DNA molecule in the presence and absence of the test compound.

25 31. The method of claim 29, wherein:  
the indicator composition is a cell comprising a human c-Maf protein and a reporter gene responsive to the human c-Maf protein; and  
the effect of the test compound on the activity of the human c-Maf protein is determined by evaluating the expression of the reporter gene in the presence and absence of the test compound.

30 32. The method of claim 29, further comprising determining the effect of the test compound on an immune response to thereby identify a compound that modulates an immune response.